Remarks

Claims 15 and 55-60 were rejected. Claims 18 and 19 were withdrawn from consideration. Claims 18 and 19 are canceled. Claims 15 and 55-60 are pending.

Status of the Claims

Claims 18-19 have been withdrawn by the Examiner for being drawn to a non-elected invention. In order to expedite prosecution of the instant application, the Applicants have canceled claims 18 and 19. The cancellation of the claims should in no way be considered to be an acquiescence to any of the rejections. The cancellations are being made solely to expedite the prosecution of the above-identified application. The Applicant expressly reserves the option to further prosecute the same or similar claims in a subsequent patent application entitled to the priority date of the instant application. 35 USC § 120.

Claim Rejections Based on 35 USC § 112¶1

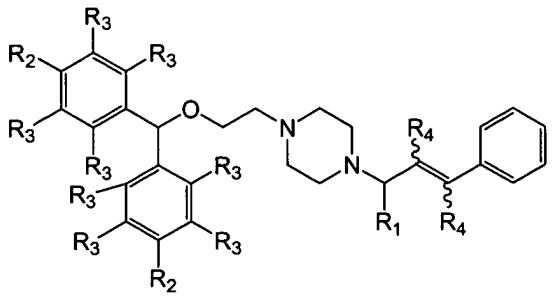
Claims 15 and 55-60 are rejected as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Firstly, the Applicants acknowledge a typo in R_1 of claim 15 and amend the claim to remove $-CO_2N(R_4)_2$, replacing it with $-CON(R_4)_2$. The Applicants apologize for the confusion caused by this typo.

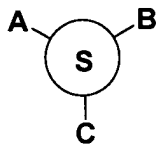
Secondly, with regards to the previously proposed generic structures (*i.e.*, formula (**II**) in claim 15), the Examiner contends there is no support in the instant specification for (1) the Markush group for R_1; and (2) the halogenation denoted by R_2 and R_3. The Applicants respectfully traverse those contentions.

1. Markush group for R_1

As discussed above, claim 15 has been amended to correct a typographical error in the definition of R_1. Therefore, amended claim 15 reads on the following structure, wherein R_1 is $-CO_2R_4$ or $-CON(R_4)_2$.

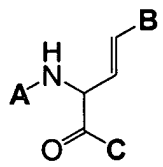


The Applicants remind the Examiner that claim 15, as originally submitted, claimed polypharmacophores represented by the following formula (which also appears at page 7 of the specification), wherein A, B and C are pharmacophores and S is a scaffold.



(II)

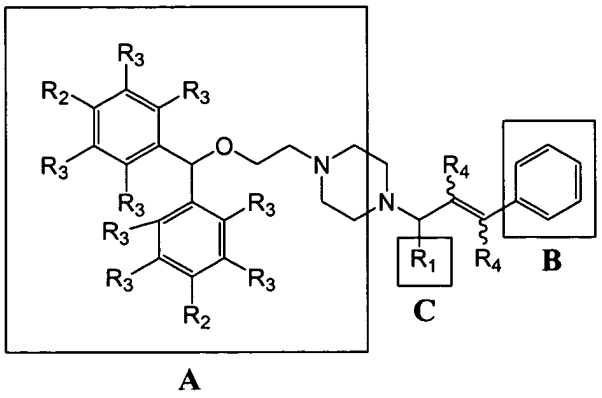
In the instant specification, at page 8, formula III teaches a narrowing of the scaffold/pharmacophore framework, wherein S is an α-amino-β,γ-enone:



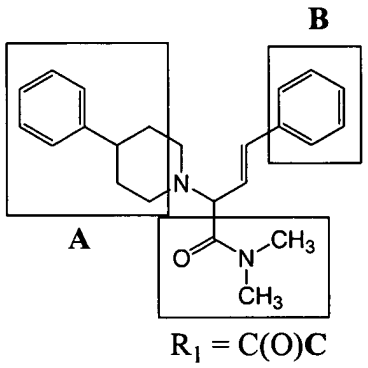
(III)

Amended claim 15 reads on compounds wherein one of the pharmacophores -- pharmacophore C above -- is contained within R_1. For purposes of argument and clarity,

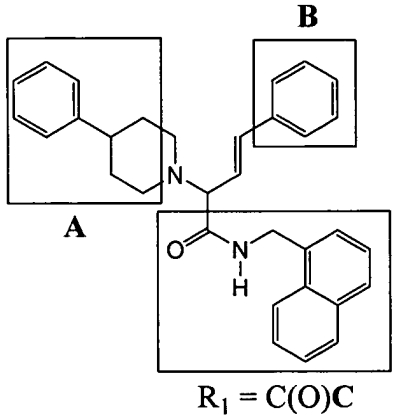
shown below is an annotated figure from claim 15, wherein the regions corresponding to pharmacophores A, B and C have been enclosed in labeled boxes.



As shown below, support for R_1 being -CON(R_4)$_2$ (*i.e.*, pharmacophore C as -N(R_4)$_2$) can be found in Figures 11 (compound **Z-28**) and 12 (compound **Z-31**), where pharmacophores A, B and C have been enclosed in labeled boxes.



Z-28



Z-31

Both of these compounds comprise amines as pharmacophores, providing support for the inclusion of amines as a subset of allowable pharmacophores. As this discussion illustrates, at the time the application was filed the Applicants did have possession of the invention with respect to R_1 as claimed in claim 15.

Further support for the Markush group defining R_1 can be found in Figures 5 and 6, which illustrate reagents to be utilized in the three-component coupling reaction (*i.e.*, the Petasis reaction described in the Exemplification on page 39). The Petasis reaction is

a reaction in the synthesis of the scaffold for the pendant pharmacophores. These amide-containing aldehyde precursors lend additional support to the inclusion of amines as a subset of allowable pharmacophores. These examples further illustrate that at the time the application was filed the Applicants were in possession of the invention as claimed.

2. Halogenation at R_2 and R_3

Textual support for the breadth of halogenation of the aryl rings covered by claim 15 is provided by the definition of "aryl" on page 11 of the instant application. Specifically, the application defines the term "aryl" as including "5-, 6- and 7-membered single-ring aromatic groups" which "can be substituted at one or more ring positions with ... halogen." The Applciants respectfully contend that the Examiner is not correct in relying on *In re Grimme, Keil, and Schmitz* (124 USPQ 499 (CCPA 1960)) because numerous substituted aromatic rings have been disclosed and claimed as pharmacophores in the instant application. For example, the following substituted aromatic moieties are disclosed: *m*-trifluoro-methylphenyl, *m,p*-methoxyphenyl, and *p*-nitrophenyl (Figure 5); *p*-chlorophenyl and *m,p*-methoxy-*m*-nitrophenyl (Figure 6); *p*-bromophenyl (Figure 7); and *p*-chlorophenyl (Figure 11). The Applicants respectfully contend that disclosure of these substituted benzenes, taken in conjunction with the definition of "aryl", entitle them to claim any substituted aromatic ring. Consequently, the Applicants respectfully assert the instant application complies with the statutory requirements for claims encompassing a smaller subset of aryl rings (e.g., haloganated benzenes) as pharmacophores.

Accordingly, the Applicants respectfully request the withdrawal of the rejections of claims 15 and 55-60 under 35 U.S.C. § 112¶1.

Fees

The Applicants believe no fee is due in connection with the filing of this paper. Nevertheless, the Director is hereby authorized to charge any required fee to our Deposit Account, **06-1448**.

Conclusion

In view of the above amendments and remarks, the Applicants believe that the pending claims are in condition for allowance. If a telephone conversation with Applicant's Attorney would expedite prosecution of the application, the Examiner is urged to contact the undersigned.

Respectfully submitted,
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